

**ABSTRACT**

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**Titanium aquo-oxo chloride, and preparation method  
thereof**

The invention relates to a titanium aquo-oxo chloride and to a method for its preparation.

The compound is in the form of crystals and has the following composition by weight: 26.91% Ti; 21.36% Cl; and 4.41% H, which corresponds to the formula  $[Ti_8O_{12}(H_2O)_{24}]Cl_8 \cdot HCl \cdot 7H_2O$ .

The method of preparation consists in hydrolyzing  $TiOCl_2$  either in an atmosphere whose moisture content is maintained between 50 and 60%, or by an alkali metal carbonate  $A_2CO_3$ , in order to obtain a titanium aquo-oxo chloride.

The compound is useful as a semiconductor element of a photovoltaic cell or as a photocatalyst in air or water purification treatments.